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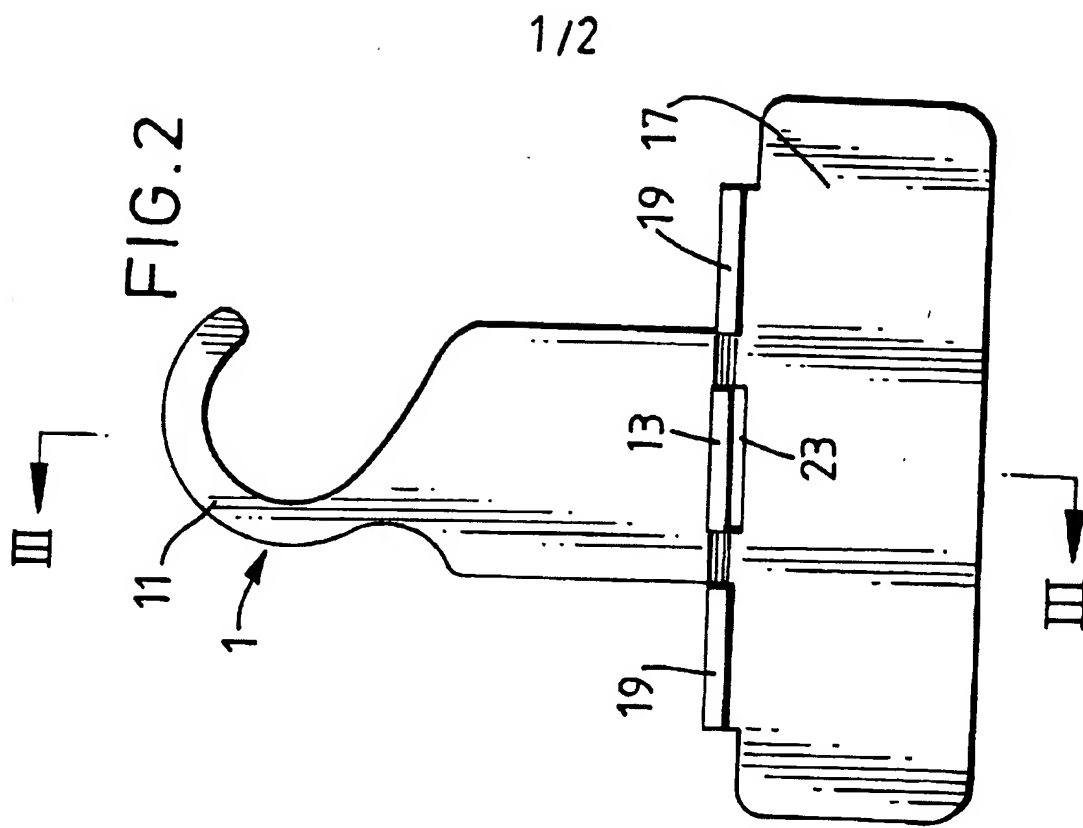
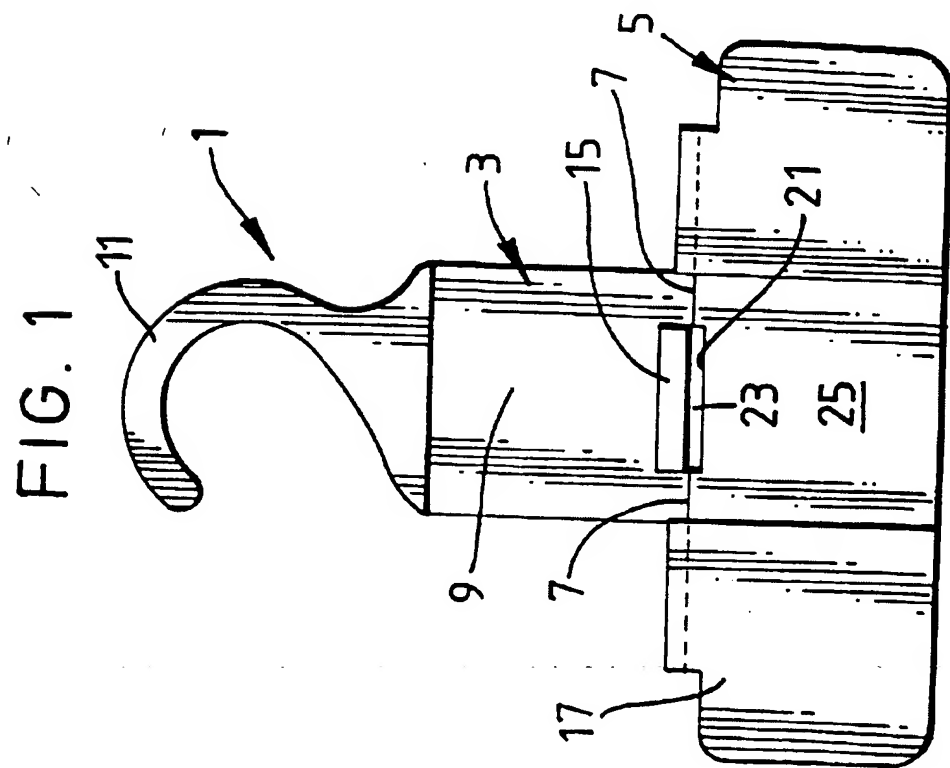


FIG. 3

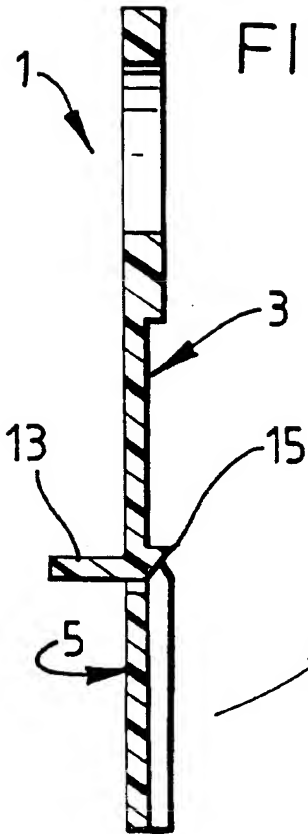


FIG. 4

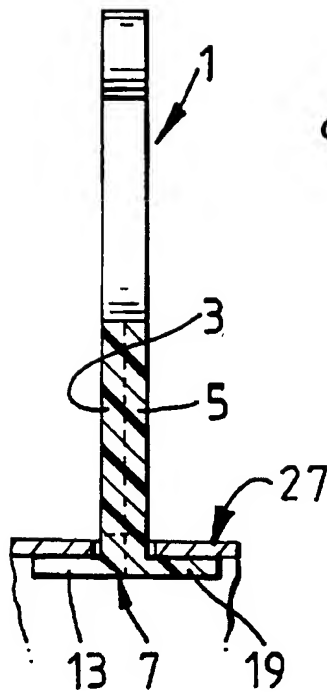
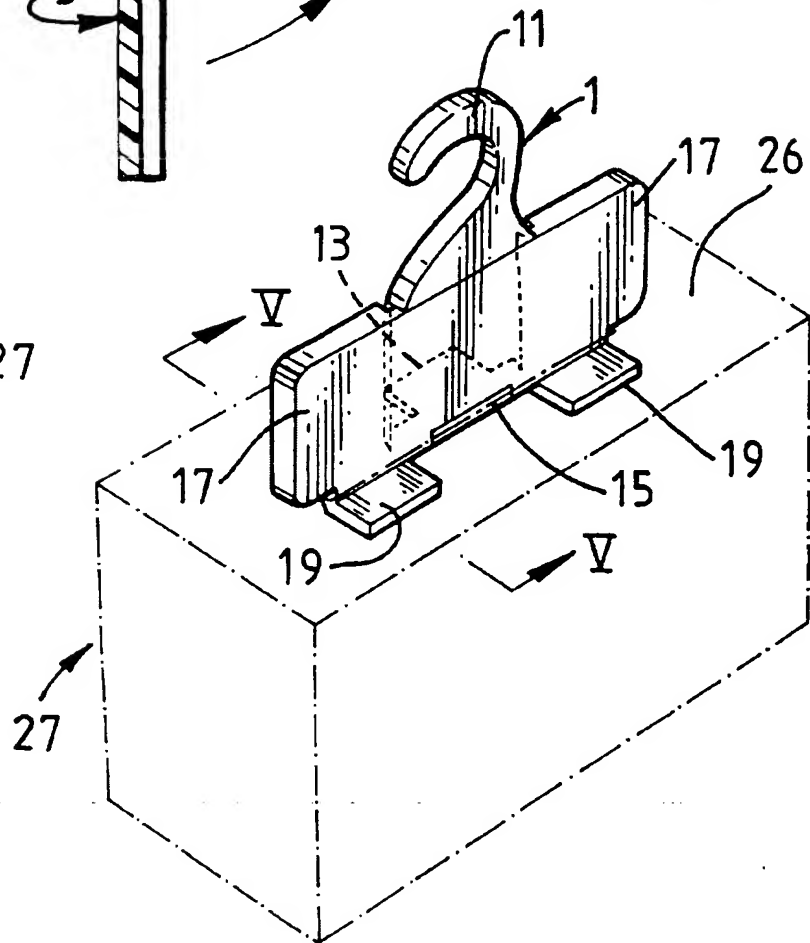


FIG. 5

A MOUNTING DEVICE

This invention relates to mounting devices, and in particular to a  
5 mounting device for engaging a sheet having a slot. More particularly, the  
invention may be used with packaging to which a hook or other device needs to  
be attached.

It is well known to package small items, such as underwear, in cardboard  
10 boxes for display purposes in department stores or other shops. If the boxes  
are to be suspended from a rail, it is well known to provide means attached to  
the box for engaging the rail. One example of this is a box which includes an  
extended flap having an aperture, for example, through which the rail can pass  
to support the box. Another known technique is to apply a plastics hook to the  
15 box through a slit defined adjacent one edge of the box. The hook has a post  
carrying resilient prongs which, when the post and prongs have been passed  
through the slit in the box, spring outwardly to prevent retraction of the post  
through the slit, thereby securing the hook to the box.

20 As will be appreciated, the prior art hooks tend to be positioned adjacent  
an edge of the packaging, which results in the packaging "falling forwards"  
when suspended from a rail. This is a bigger problem with wider boxes and can  
result in the products looking untidy and messy on the rail. Further, if a hook  
having a post with resilient prongs is used, the post and/or prongs can interfere  
25 with products in the packaging and, indeed, may snag the products in certain  
cases. Hence, there is a clear demand for an improved mounting device for  
attaching a hook to packaging, such as a box. Further, ideally it should be  
possible to mount a hook centrally in a side of a box, thereby allowing the box to  
be suspended more neatly. The present applicant has invented a mounting  
30 device which satisfies this need.

According to the present invention, there is provided a mounting device  
for engaging a sheet having a slot, the mounting device having a first portion

hingedly connected to a second portion, the first and second portions each comprising an engagement portion, wherein when at least one of the engagement portions has been passed through a slot of a sheet the first and second portions can be hinged to extend the engagement portions such that the  
5 at least one engagement portion cannot return through the slot. Such a mounting device can be used for packaging to enable a hook to be mounted from outside the packaging centrally in a side of the packaging. More particularly, the packaging may be a box, perhaps for food, toys or clothing, which is formed from a sheet of cardboard material.

10

Preferably the first and second portions each comprise a body portion defining an angle with an engagement portion.

The first and second portions are preferably locked in position when the  
15 engagement portions are extended. The body portions may include means for locking the first and second portions in position. Such a locking means may comprise a snap catch. The snap catch may comprise a cam on one portion and an aperture edge on the other portion, the cam passing the aperture edge to lock the body portions. Alternatively, a stub or pin may be formed on one of  
20 the first and second portions which engages an aperture or recess on the other of the first and second portions to lock the portions together. Many other forms of locking means will, of course, be envisaged by those skilled in the relevant art.

25 In a preferred embodiment, the engagement portion of at least one of the first and second portions includes two tongues. More preferably, the two tongues are separated by a tongue of the other of the first and second portions. More preferably, the tongues of the first and second portions extend in opposite directions.

30

Preferably at least one of the body portions abuts a sheet when the mounting device engages the sheet. This abutment, in combination with the

engagement portions, helps to clamp the mounting device on the sheet. Firm securement is thereby achieved.

In a preferred embodiment, one of the first and second portions includes  
5 means for attaching the mounting device to a rail or the like. The attachment means may be a hook or hooking device, but other appropriate means may alternatively be included.

A label area may be provided on one of the body portions for displaying  
10 information relating to the contents of the packaging.

Preferably the device is manufactured from plastics material, preferably polypropylene. Other materials may, of course, alternatively be used.

15 The complete device is preferably a one piece molding.

Although the angle between a body portion and an engagement portion could be less than 90°, the angle is preferably substantially 90°. More preferably, the angle is actually a right angle.  
20

The present invention further provides packaging comprising a sheet material defining a slot and a mounting device as claimed herein engaging the slot. The packaging may take the form of a box, and the slot may be formed centrally in a side of the box. The invention is, however, not limited to this use.  
25

The present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a front view of a mounting device according to the present  
30 invention prior to installation;

Figure 2 is a rear view of the mounting device of Figure 1;

Figure 3 is a sectional side view in the direction III-III shown in Figure 2;

Figure 4 is a schematic perspective view of the mounting device in an active position for supporting a box shown in phantom lines; and

5

Figure 5 is a sectional side view in the direction V-V shown in Figure 4.

With reference to the drawings, a mounting device 1 according to the present invention comprises a first portion 3 and a second portion 5. The first  
10 portion 3 and the second portion 5 are formed as a one-piece molding from polypropylene or other plastics material with an integral hinge 7 therebetween. The first portion 3 comprises a body portion 9, a hook 11, a tongue 13 and a cam-shaped detent 15. The second portion 5 comprises a body portion 17, a pair of engagement portions 19 and a stepped edge 21 defining an aperture 23  
15 with the first portion 3.

The first and second portions 3,5 are free to hinge about hinge 7 from a first position shown in Figures 1-3 to a second position shown in Figures 4 and 5. When the mounting device 1 is in the second position, the engagement  
20 portion 13 of the first portion 3 and the engagement portions 19 of the second portion 5 extend in opposite directions as clearly seen in Figure 4. When the mounting device 1 is in this second position, the body portion 9 of the first portion 3 is received in a stepped region 25 of the body portion 17 of the second portion 5. Further, as the mounting device 1 moves from its first position to its  
25 second position, the cam-shaped detent 15 eases past the stepped edge 21 of the second portion 5 to act as a locking means for holding the mounting device 1 in its second position.

The mounting device 1 is particularly suited for engaging a sheet 26  
30 having a slot, such as a sheet of cardboard forming a side of a packaging box. Such a box 27 is shown in Figure 4 with the mounting device 1 duly engaged.

To clamp the mounting device 1 to the box 27, the engagement portions 13,19 are inserted through a centrally positioned slot (not clearly shown) in the box 27 whilst the mounting device 1 is in its first position. The first and second portions 3,5 are then brought together as shown in Figures 3, 4 and 5 such that the engagement portions 13,19 extend in opposite directions as shown in Figure 4. These engagement portions 13,19 abut one side of the cardboard sheet 26 of the box 27 whilst the body portions 9,17 of the first and second portions 3,5 overlap the ends of the slot to abut the opposite side of the cardboard sheet 26. In this way, the sheet is clamped between the engagement portions 13,19 and the body portions 9,17. The mounting device 1 with its hook 11 is thus securely fixed to the box 27.

To disengage the mounting device 1 from the box 27, it is a simple matter to separate the first and second portions 3,5 by overcoming the locking means provided by the detent 15 and the stepped edge 21 such that the engagement portions 13,19 can once again become aligned and withdrawn through the slot. Reengagement can be achieved by the reverse procedure.

As a result of the device 1 according to the present invention being able to engage a slot centrally within a sheet 26, a packaging box 27 may be mounted either in a portrait orientation or in a landscape orientation simply by providing the slot in the required side of the box. Whichever orientation is chosen, the box 27 will be held horizontal without the box "falling forwards", as has been the case with prior art boxes. Further, by virtue of the engagement portions 13,19 lying flush with the sheet 26, snagging of articles within the box 27 is unlikely to occur. The ability to apply the device 1 in a secure fashion from outside the box 27, rather than from the inside of the box, is also a great advantage.

It will of course be understood that the present invention has been described above purely by way of example, and that modifications of detail can be made within the scope of the invention.



CLAIMS

1. A mounting device for engaging a sheet having a slot, the mounting  
5 device having a first portion hingedly connected to a second portion, the first  
and second portions each comprising a body portion defining an angle with an  
engagement portion, wherein when the engagement portions have been passed  
through a slot of a sheet the first and second portions can be hinged to extend  
the engagement portions such that the engagement portions cannot return  
10 through the slot.
2. A device as claimed in claim 1, wherein the first and second portions can  
be locked in position when the engagement portions are extended.
- 15 3. A device as claimed in claim 1 or claim 2, wherein the body portions  
include means for locking the first and second portions in position.
4. A device as claimed in claim 3, wherein the locking means comprise a  
snap catch.  
20
5. A device as claimed in claim 4, wherein the snap catch comprises a cam  
on one portion and an aperture edge on the other portion passed which the cam  
passes to lock the body portions.
- 25 6. A device as claimed in any preceding claim, wherein the engagement  
portion of at least one of the first and second portions includes two tongues.
7. A device as claimed in claim 6, wherein the two tongues are separated  
by a tongue of the other of the first and second portions.  
30
8. A device as claimed in claim 7, wherein the tongues of the first and  
second portions extend in opposite directions.

9. A device as claimed in any preceding claim, wherein at least one of the body portions abuts a sheet when the mounting device engages the sheet.
10. A device as claimed in any preceding claim, wherein one of the first and second portions includes means for attaching the mounting device to a rail or the like.
11. A device as claimed in claim 10, wherein the attachment means include a hooking device.
12. A device as claimed in any preceding claim, wherein a label area is provided on one of the body portions.
13. A device as claimed in any preceding claim, wherein the device is manufactured from plastics material, preferably polypropylene.
14. A device as claimed in any preceding claim, wherein the device is a one piece molding.
15. A device as claimed in any preceding claim, wherein the angle between a body portion and an engagement portion is substantially 90°.
16. A mounting device as claimed in any preceding claim, wherein the angle between a body portion and an engagement portion is a right angle.
17. A mounting device for engaging a sheet having a slot, the mounting device having a first portion hingedly connected to a second portion, the first and second portions each comprising an engagement portion, wherein when at least one of the engagement portions has been passed through a slot of a sheet the first and second portions can be hinged to extend the engagement portions such that the at least one engagement portion cannot return through the slot.

18. A mounting device substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

5 19. Packaging comprising a sheet material defining a slot and a mounting device as claimed in any preceding claim engaging the slot.

20. Packaging as claimed in claim 19, wherein the packaging is a box.

10 21. Packaging as claimed in claim 19 or claim 20, wherein the slot is formed centrally in a side of the box.

22. Packaging in combination with a mounting device substantially as hereinbefore described with reference to and as shown in the accompanying  
15 drawings.